

Providing Resilience and Economic Vitality through Transportation Investments – A Case Study of Louisiana Highway 1

February 2020

Revised May 2020



Objective

- **Estimate the impact on Louisiana's economy, and the national economy, resulting from implementation of Louisiana Highway 1 – Phase 2**

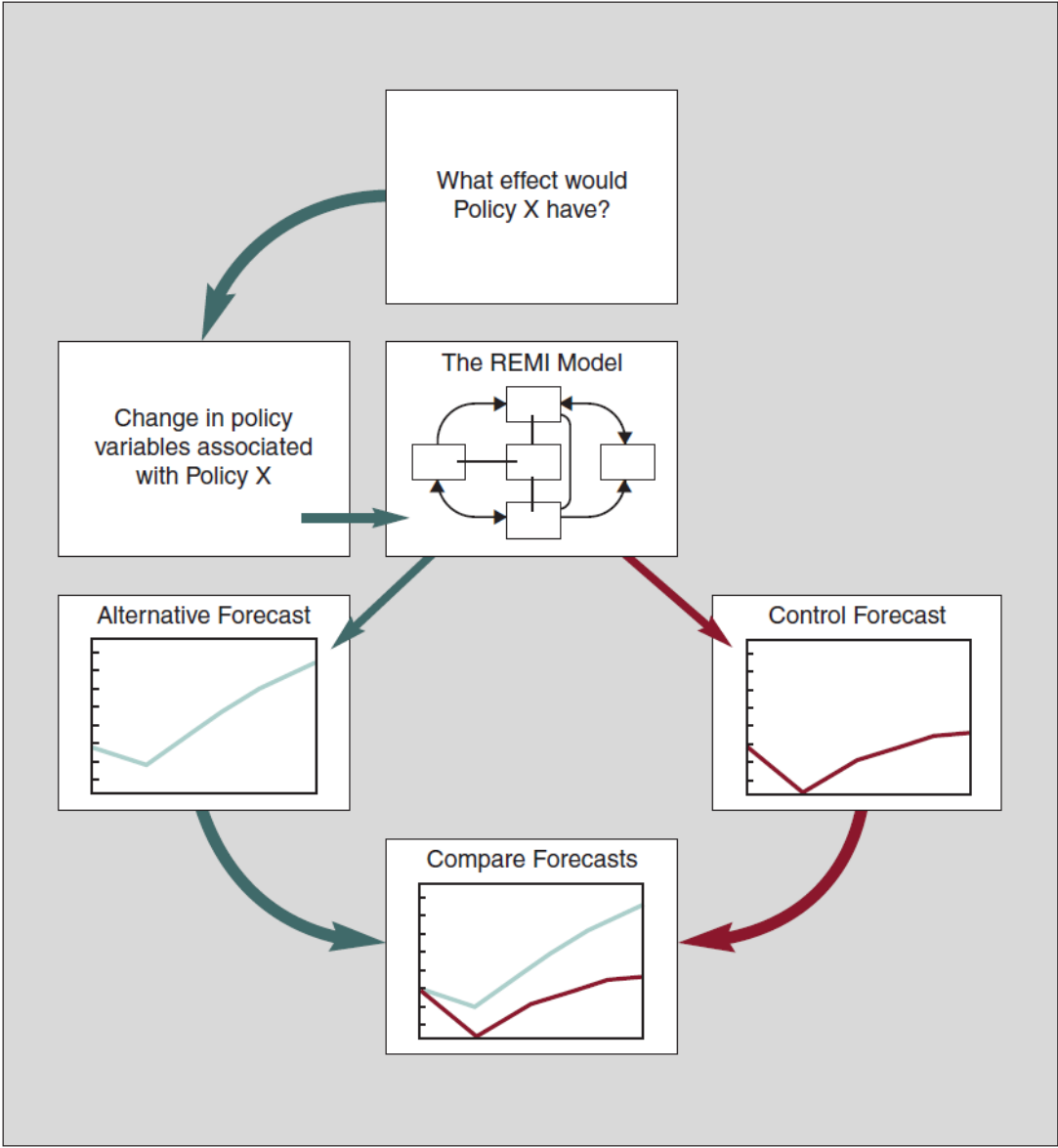


Louisiana Highway 1 – Phase 2

- LA 1 serves Port Fourchon – logistics base for offshore oil and gas exploration and production for nearly entire Gulf of Mexico
- Highway vulnerable to closure from hurricanes, tropical storms, and even minor storms and high tides
- NOAA forecasts increasing frequency of closures
- First nine miles of 17-mile corridor elevated in 2012; partially financed with tolls
- Phase 2 will elevate remaining eight miles

Economic Analysis Tool

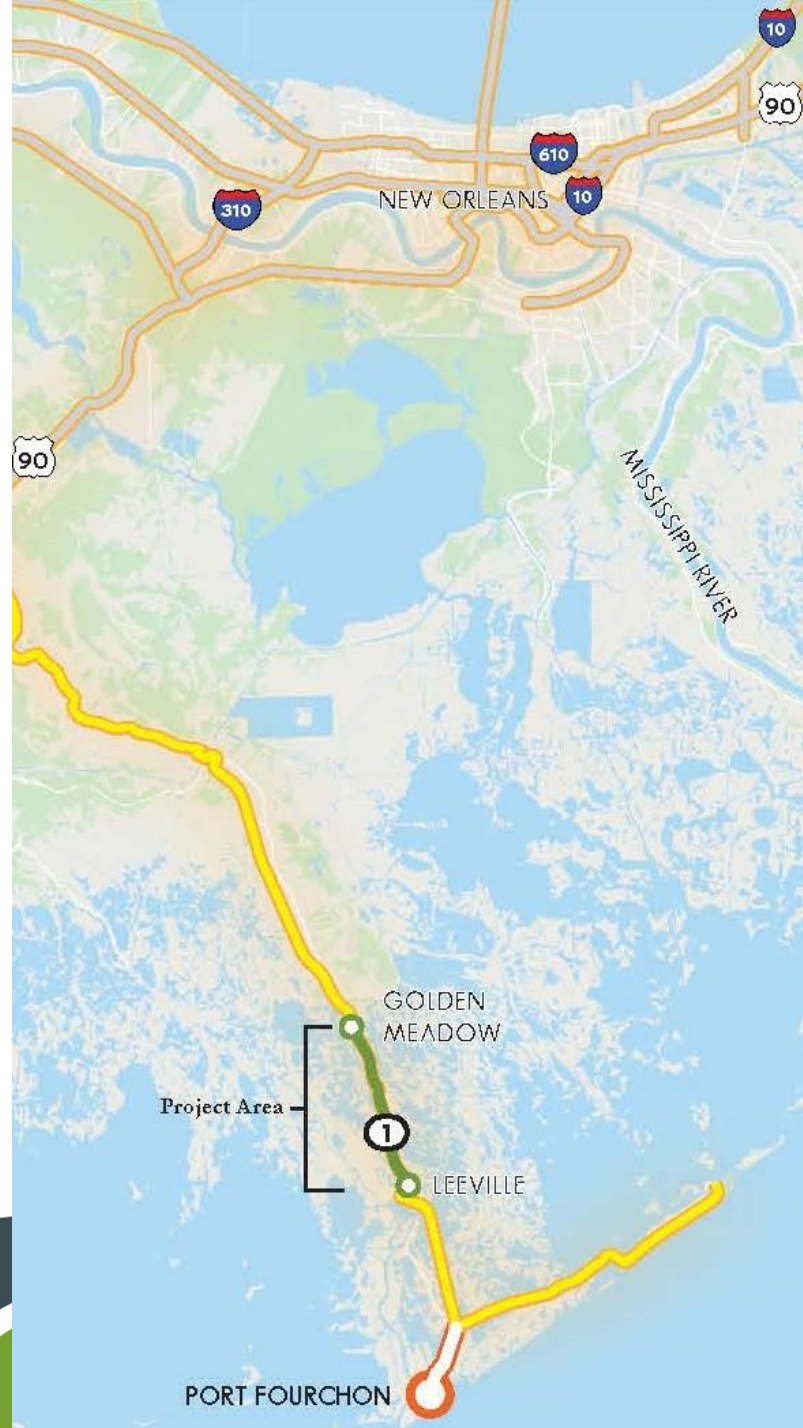
- Regional Economic Models Inc. (REMI) software
- Nationally-respected dynamic input-output model
- Estimates economic changes over time
- Employed REMI Tax-PI for this analysis
- Model includes both “State of Louisiana” and “Rest of Country”
- Consulted with REMI economists to ensure proper model application



LA 1 – Phase 2 Vicinity Map



LA 1 – Phase 2 Project Location





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Port Fourchon



LA 1 makes it possible for Port Fourchon to service more than 250 companies that use it as a base of operations. The facility is America's busiest intermodal energy port, seeing more than 400 large supply vessels move through its channels. They move people and supplies to oil and gas locations that produce 15 percent of all U.S. production and 50 percent of U.S. refinery capacity.

Existing LA 1 Inundation



Existing LA 1 Inundation



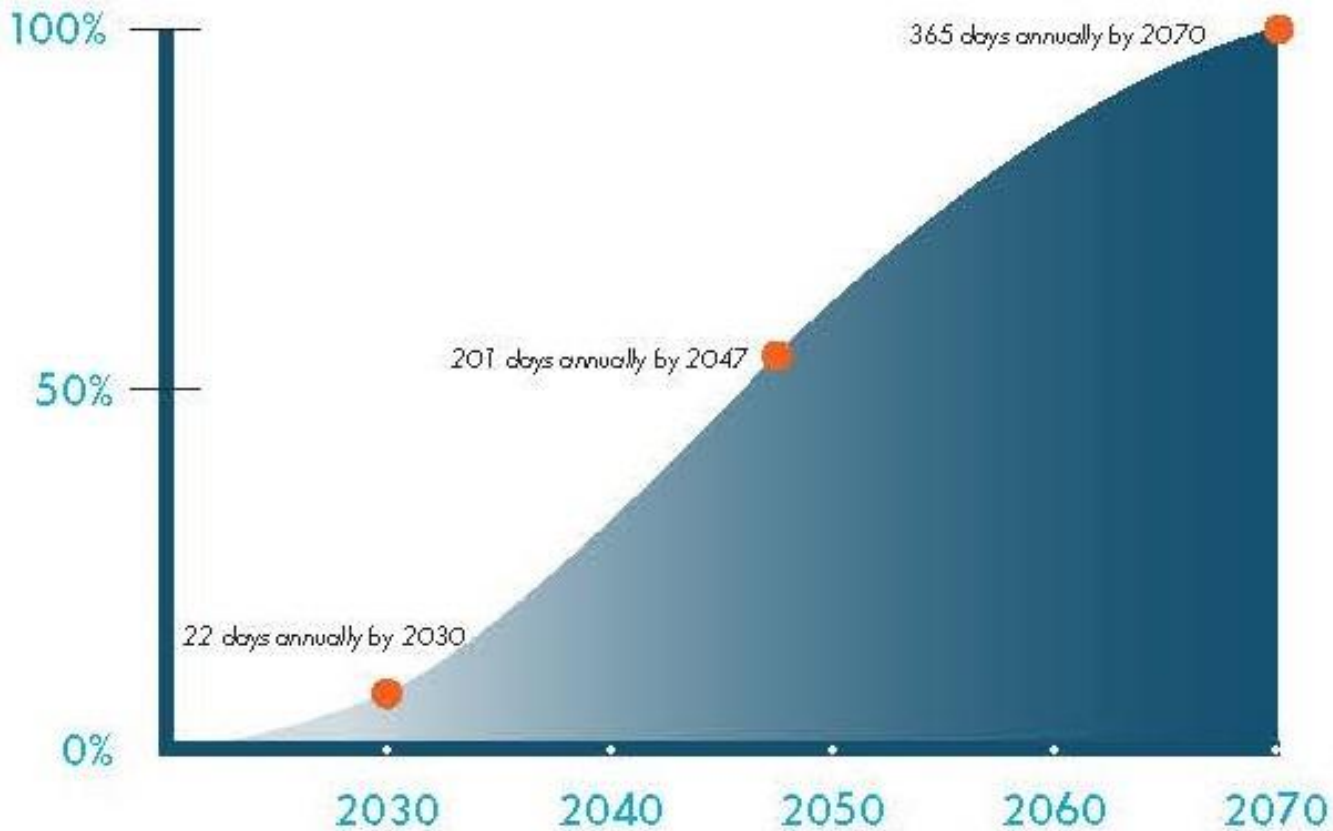
Existing LA 1 Inundation



Existing LA 1 Cleanup



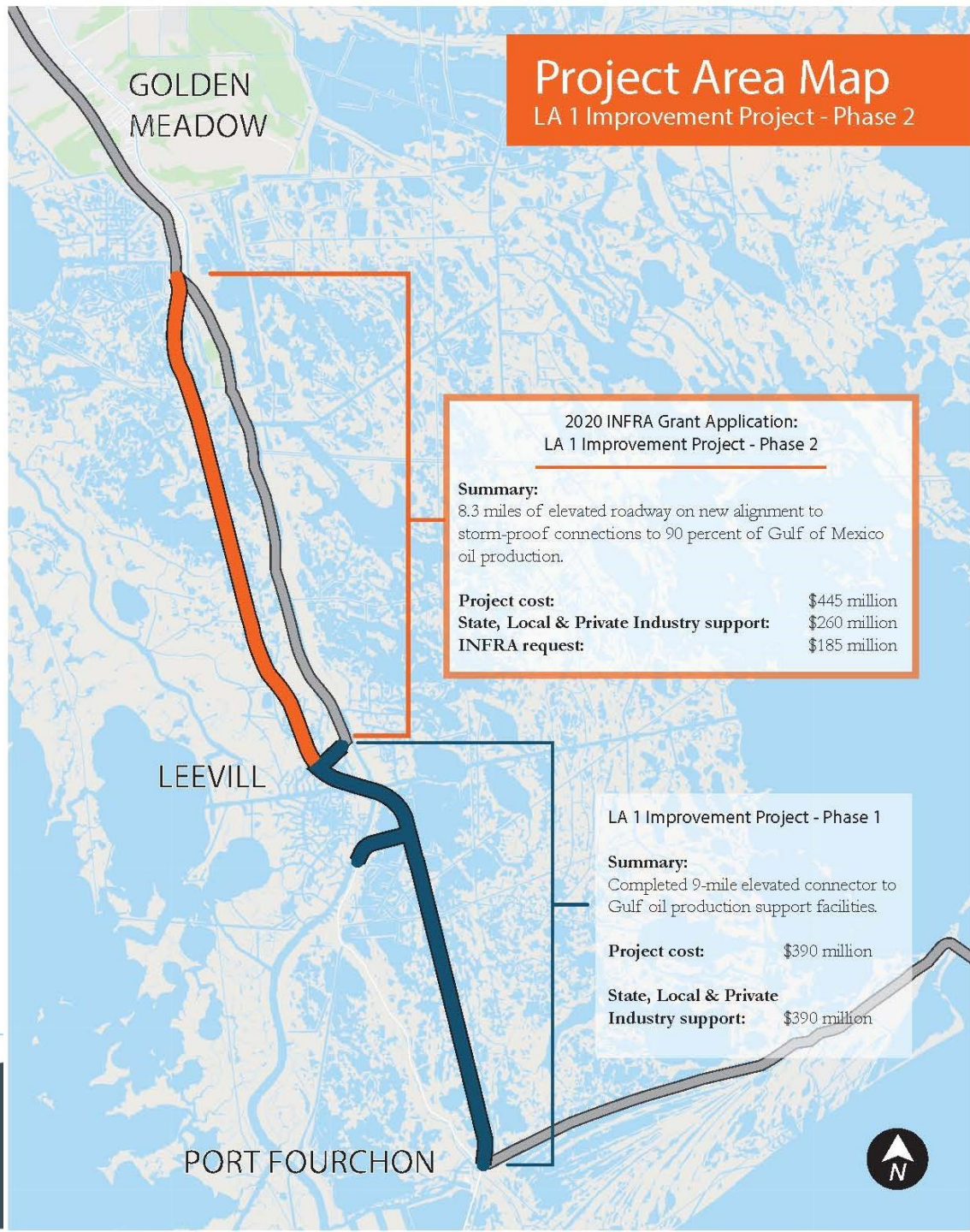
LA 1 Increasingly Vulnerable





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LA 1 – Phase 2



LA 1 – Elevated Section



National/State Benefits

- Employment associated with construction
- Travel time savings to consumers and businesses
- Travel cost savings to consumers and businesses
- Safety benefits to consumers and businesses
- Air quality benefits
- Avoided costs associated with lost wages and emergency evacuation
- Avoided oil and gas production losses from reduced LA 1 closures/closure duration

REMI Variables Employed

- Analysis limited to only avoided oil and gas production loss resulting from LA 1 – Phase 2
- All other benefits are relatively minor in comparison, particularly for the national economy
- Policy variable selected:

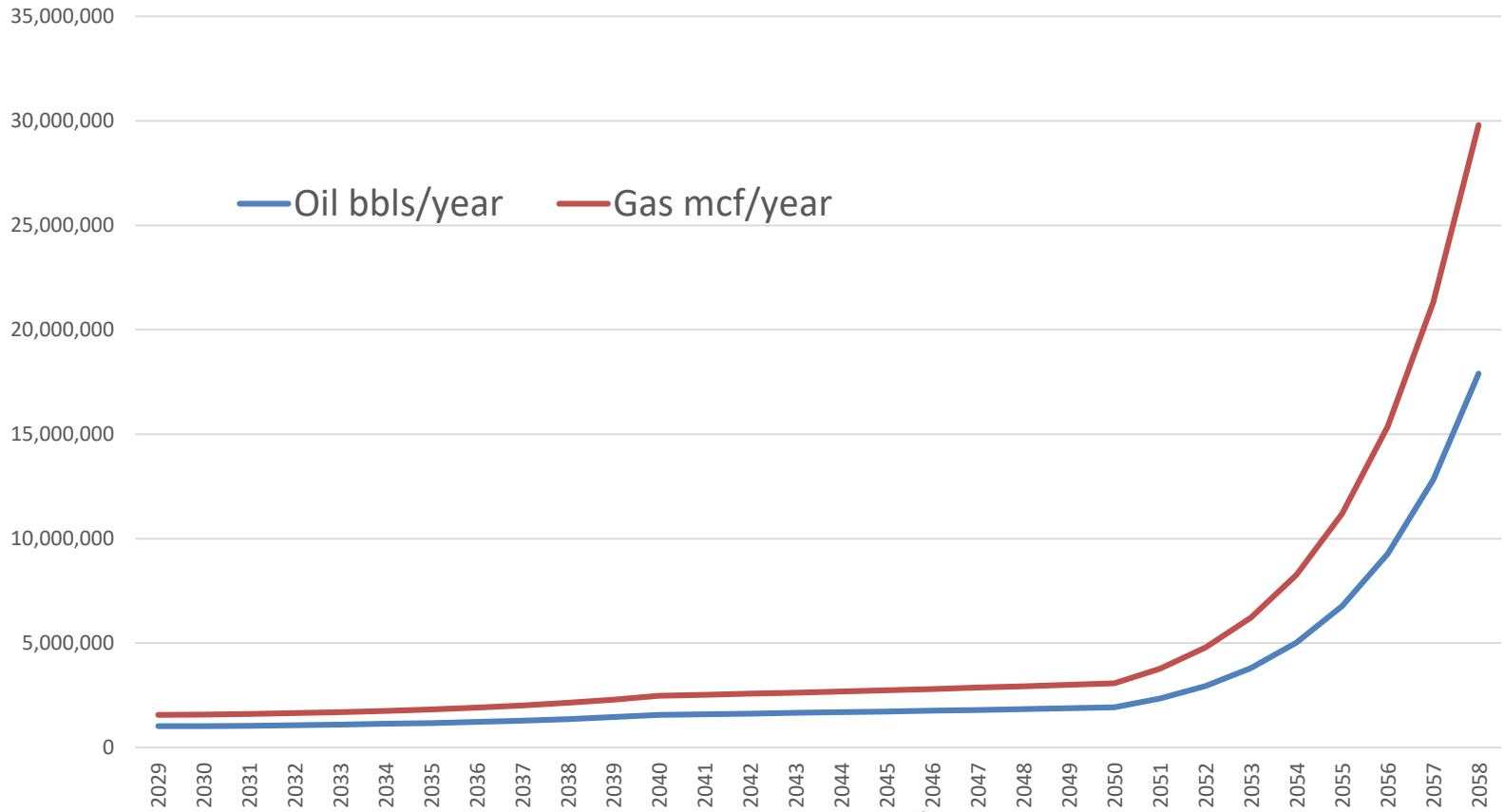
**PVOutput, Output, Oil and Gas Extraction
(amount in 2017 \$)**



Analysis

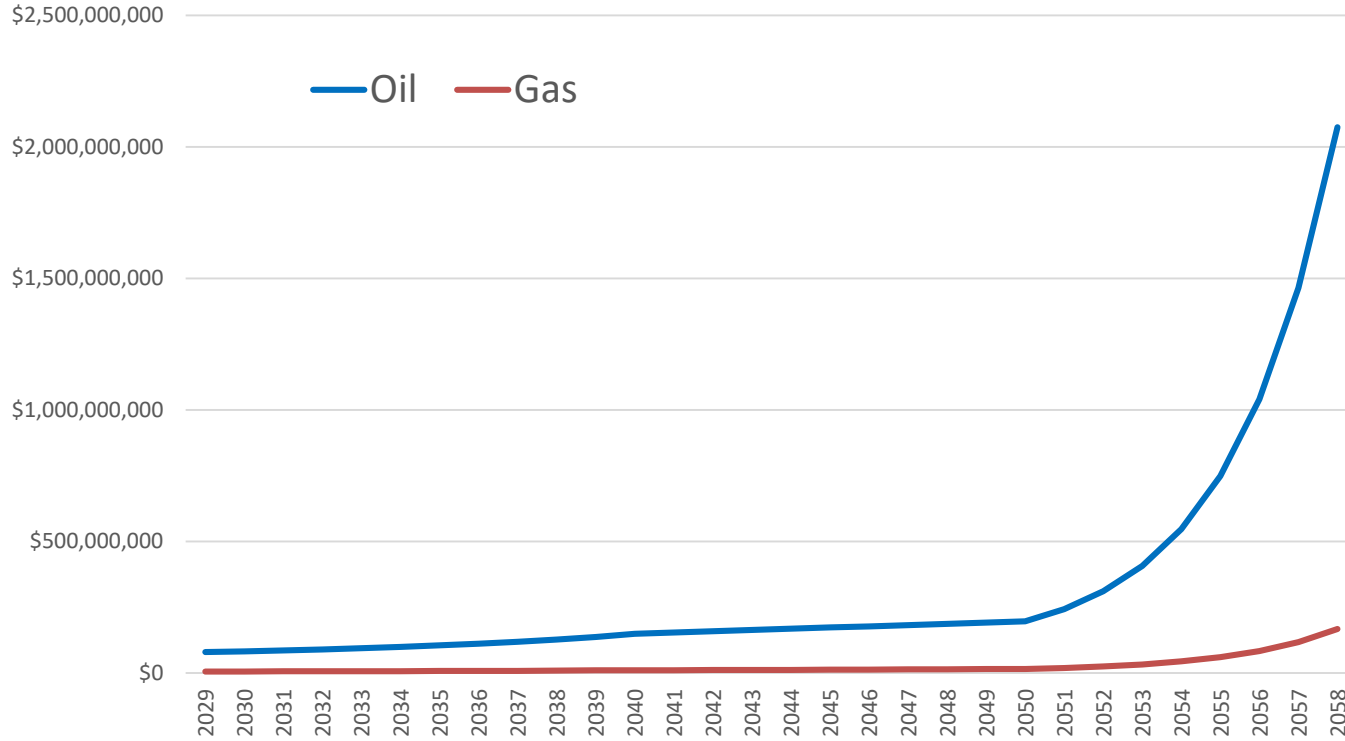
- LA 1 – Phase 2 complete in 2029
- 30-year analysis period: 2029 through 2058
- Annual estimates of avoided production loss based on NOAA forecasts of LA 1 closures
- 2029 avoided production loss
 - 1,019,665 barrels of crude oil valued at \$78,954,523 (2018 \$)
 - 1,563,601 thousand cubic feet of nat. gas valued at \$5,404,025 (2018 \$)
- 2058 avoided production loss
 - 17,894,590 barrels of crude oil valued at \$2,074,411,502 (2018 \$)
 - 29,797,917 thousand cubic ft. of nat. gas valued at \$166,791,176 (2018 \$)

Avoided Production Loss



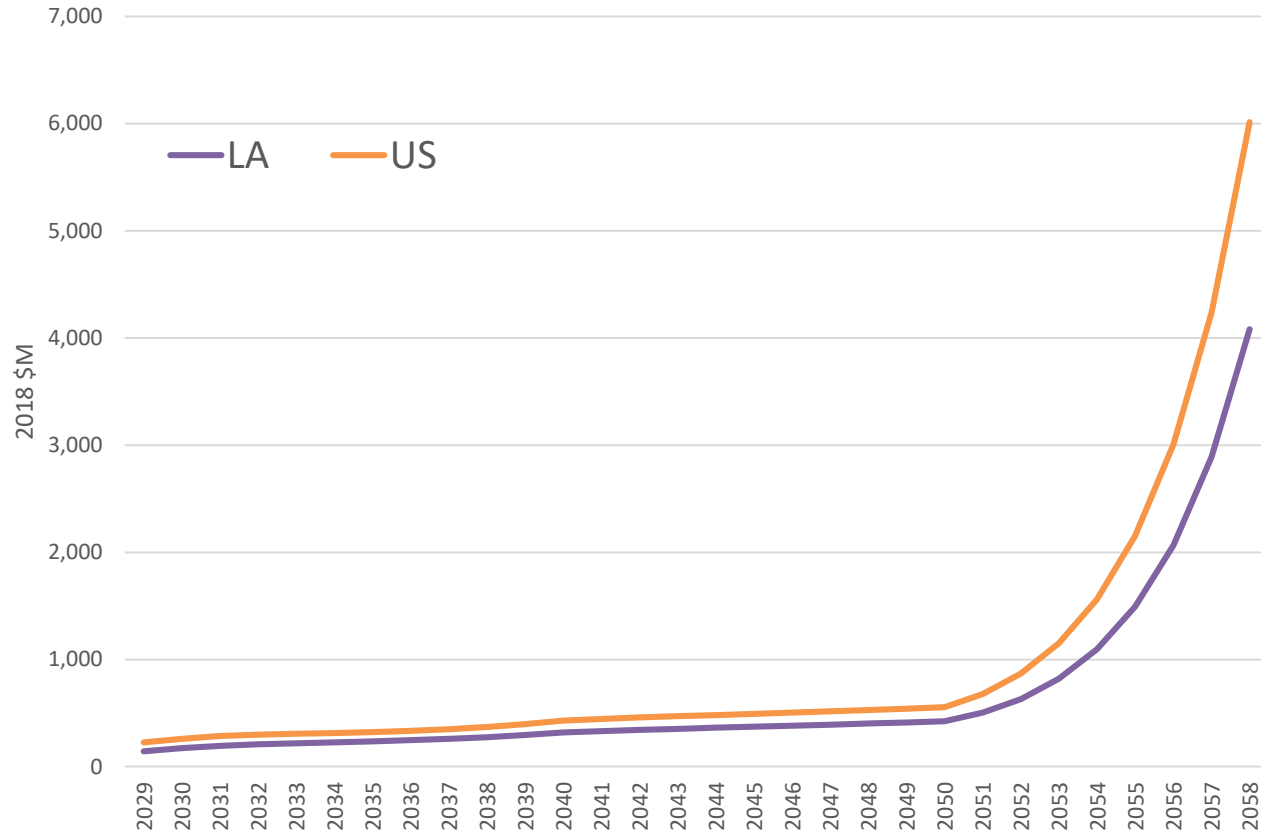
Avoided Production Loss

Value in 2018\$



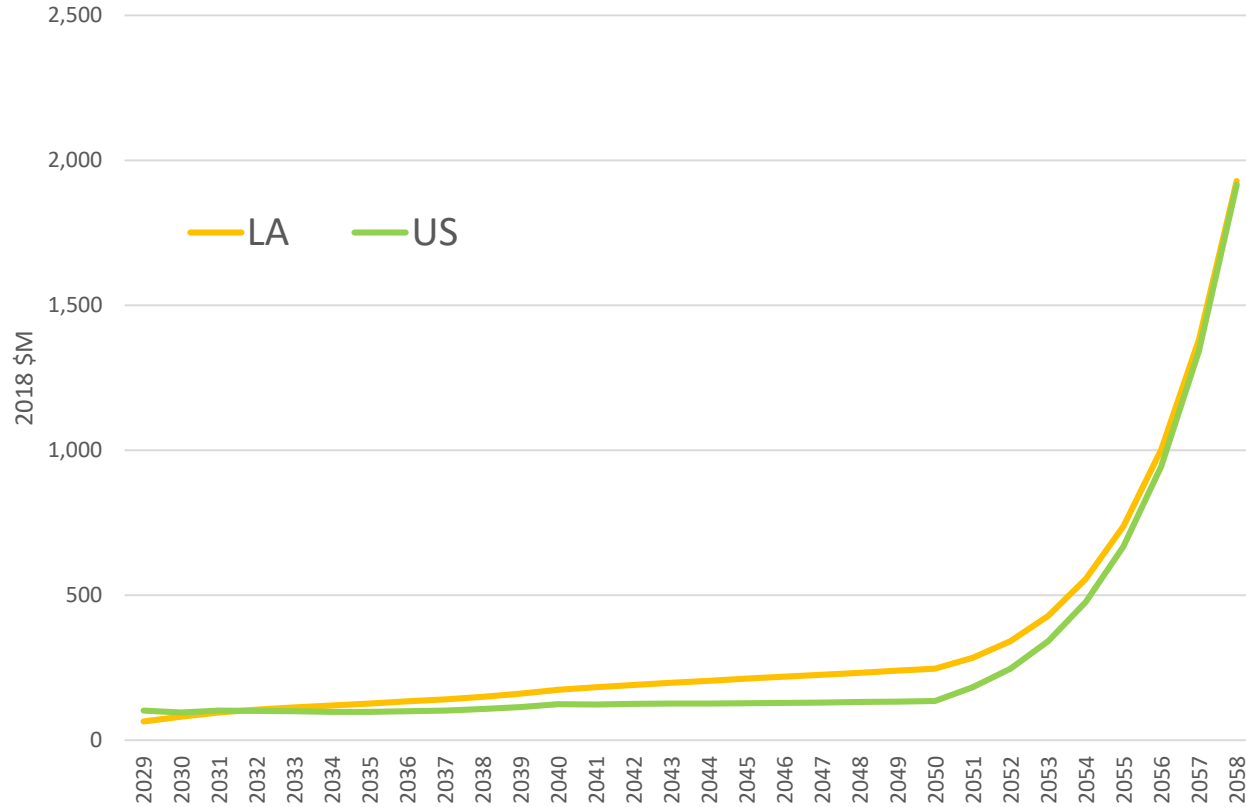
Economic Impacts

Gross Domestic Product



Economic Impacts

Personal Income





Economic Impacts

Summary

Year	Louisiana			United States		
	GDP (2018 \$M)	Personal Income (2018 \$M)	Employment	GDP (2018 \$M)	Personal Income (2018 \$M)	Employment
2029	141	65	1,017	227	102	1,649
2058	4,082	1,929	21,117	6,013	1,916	30,569
2029 - 2058	20,160	10,285	---	28,555	8,660	---

Tax Revenue Impacts

- Impacts on collections - estimated four tax revenues
 - Federal and state personal income tax
 - Federal and state corporate income tax
 - Federal oil and gas royalty tax
 - State sales tax
- Federal personal and corporate income tax – estimated using tax receipts to national GDP ratios from U.S. Office of Management and Budget
- Federal royalty tax – estimated using rates from U.S. Treasury Department
- State personal and corporate income tax, and state sales tax – estimated using tax receipts to state GDP ratios derived from LA Department of Revenue and Federal Reserve Board (St. Louis) data
- State does not tax oil and gas produced in federal waters (>3 miles offshore)



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Tax Revenue Impacts

Revenue Sources	Louisiana			United States		
	2029	2058	2029-2058	2029	2058	2029-2058
Personal Income Tax (\$2018 \$M)	1.7	50.6	250.0	18.8	499.1	2,370.1
Corporate Income Tax (2018 \$M)	0.2	6.1	30.2	2.3	60.1	285.6
Oil & Gas Royalty Tax (2018 \$M)	0	0	0	56.9	1,506.3	7,153.0
State Sales Tax (2018 \$M)	2.2	62.5	308.4	0	0	0

Questions?

